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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,546	07/11/2003	Nathan S. Lewis	06618-892002	5173

41790 7590 06/06/2006

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EXAMINER

LAU, TUNG S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,546	LEWIS ET AL.	
	Examiner	Art Unit	
	Tung S. Lau	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 55-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 55-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments filed 09/26/2005, with respect to the claim invention have been fully considered and are persuasive. The final action of 08/25/2005 has been withdrawn, PROSECUTION IS HEREBY REOPENED.

Joint inventor

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

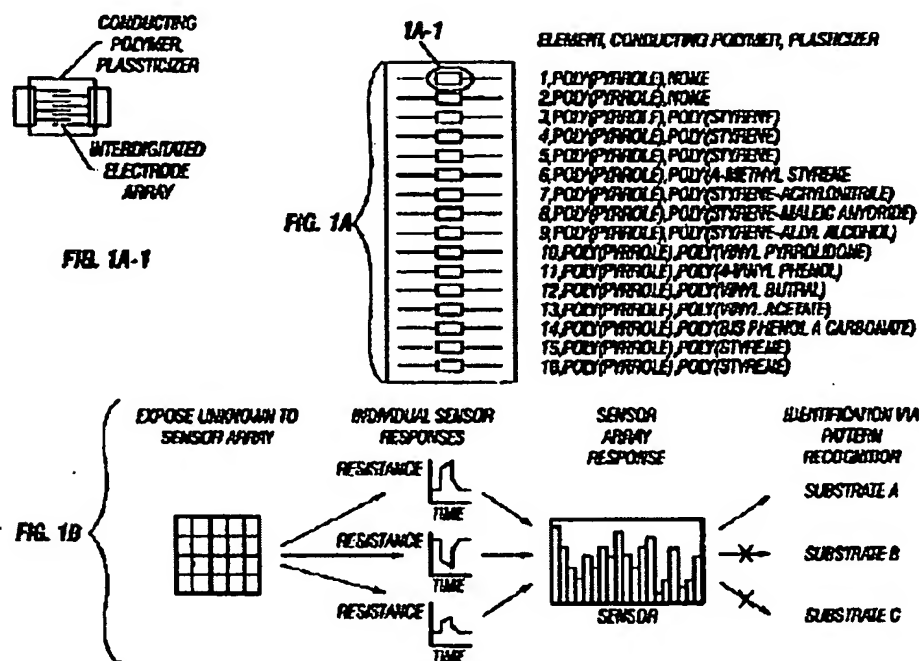
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1, 3, 2, 4-16, 18-22, 24, 17, 23, 56, 57, 55 and 58 are rejected under 35

U.S.C. 102(e) as being anticipated by Lewis et al. (U.S. Patent Application

Publication 2004/0042933).

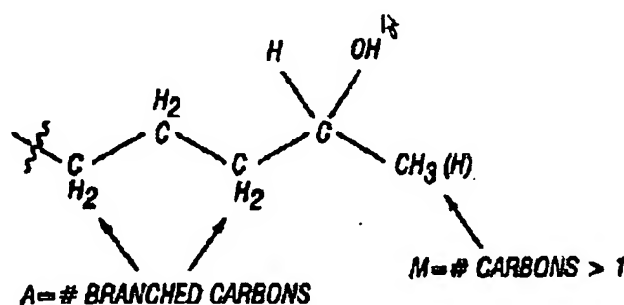


Regarding claim 1:

Lewis discloses a method for remote characterization of a gaseous or vapor sample (page 2, section 0023, fig. 1a1, 1b, array sensor), comprising: contacting at least one sensor with a gaseous or vapor sample (page 2, section 0023, fig. 1a-1, array sensor), wherein the sample contains at least one analyte, the at least one sensor (page 2, section 0023, fig. 1a-1, array sensor) comprising a composite having regions of a conductive material and a material compositionally different than the conductive material (page 1, section 0006-0008, section 0011)

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and wherein the at least one sensor provides a detectable signal when contacted by the at least one analyte (page 1, section 0008-00010); transmitting data corresponding to the detectable signal to a remote location via the internet (page 13, section 0088), fiber-optic cable, and/or an air-wave frequency; analyzing the data received at the remote location (page 13, section 0088), and identifying the at least one analyte present in the gaseous or vapor sample thereby characterizing the sample (page 13, section 0086-0087).

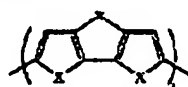
**FIG. 4**

Regarding claim 55:

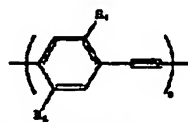
Lewis discloses a method for remote characterization of a disease in a subject (page 4, section 0041) comprising: contacting at least one sensor with a gaseous or vapor sample obtained from the subject (page 2, section 0023, fig. 1a-1, array sensor), wherein the at least one sensor provides a detectable signal when contacted by an analyte present in the sample (page 2, section 0023, fig. 1a-1, array sensor), the at least one sensor (fig. 1a1, 1b) comprising: regions of a conductive material and regions of a material compositionally different than the conductive material, and wherein the materials provide an electrical path through

the regions of conductive material (page 1, section 0006-0008, section 0011) and compositionally different material of the sensor (page 1, section 0006-0008, section 0011), wherein interaction of the analyte with the sensor changes the resistance of the sensor (fig. 1a1, 1b) , electrically measuring a detectable signal of the sensor (fig. 1a1, 1b), transmitting data corresponding to the detectable signal to a remote location, analyzing the data received at the remote location (page 13, section 0088), and identifying the at least one analyte present in the gaseous or vapor sample (page 13, section 0086-0087) thereby characterizing the disease (page 4, section 0041-0042).

TABLE 3-continued



X = S, O, Se, Te, N
R = alkyl



R1 = H, alkyl, alkoxy
R2 = H, alkyl, alkoxy
R3 = H, alkyl, alkoxy

Regarding claim 2, Lewis further discloses plurality of sensors (fig. 1b, array sensor); Regarding claim 3, Lewis further discloses dye-coated fiber optic sensor (page 2-3, section 0026); Regarding claim 4, Lewis further discloses electrically conductive sensor (fig. 1b); Regarding claim 5, Lewis further discloses 5. the electrically conductive sensor comprises regions of a conductive material and a material compositionally different than the conductive material (page 1, section

0006-0008, section 0011), wherein the sensor provides an electrical path through the regions of the conductive material and the regions of the compositionally different material (page 1, section 0006-0008, section 0011), and wherein the conductivity changes upon adsorption with the at least one analyte (fig. 1b); Regarding claim 6, Lewis further discloses at least one region of compositionally different material of one sensor is a different thickness than the region of compositionally different material of at least one other sensor (page 20, section 00162, fig. 1b); Regarding claim 7, Lewis further discloses the compositionally different material is selected from the group consisting of polyanilines (page 6-9, section 0052) , an emeraldine (page 6, section 0047), salt of polyanilines (page 20, claim 4), polypyrroles (page 5, section 0045), polythiophenes (page 5, section 0046), polyEDOTs (page 5, section 0046), and derivatives thereof (page 5, section 0045-0046); Regarding claim 9, Lewis further discloses sensor is a insulator (page 2, section 0023); Regarding claim 8, Lewis further discloses conductive material is Ag (page 5, section 0042); Regarding claim 10, Lewis further discloses conductive material and non conductive material (page 10, section 0065); Regarding claim 11, Lewis further discloses data is digital representation of the signal (fig. 1b); Regarding claim 12, Lewis further discloses the data is a digital profile representation of the detectable signal from each of the plurality of sensors (fig. 1b); Regarding claim 13, Lewis further discloses sample is an environmental sample (page 2, section 0023); Regarding claim 14, Lewis further discloses sample is an environmental sample is air (page 2, section

0023); Regarding claim 15, Lewis further discloses headspace of a liquid sample (page 4-5, section 0042); Regarding claim 16, Lewis further discloses biological sample (page 4-5, section 0042); Regarding claims 18, 58, Lewis further discloses the biological sample is selected from the group consisting of a breath sample (page 4, section 0041); Regarding claim 19, Lewis further discloses the data is analyzed by comparing the data to a database comprising a data profile from at least one previously-obtained detectable signal from a sample of known composition (page 13, section 0085); Regarding claim 20, Lewis further discloses the analyte in the sample is identified by matching the data to the data profile of a known composition in the database (page 4, section 0037, page 13, section 0085); Regarding claim 21, Lewis further discloses the data is analyzed by comparing the data to a database containing data profiles from a plurality of detectable signals (page 4, section 0037, page 13, section 0085); Regarding claim 22, Lewis further discloses each data profile in the database is associated with at least one identifier (fig. 1b); Regarding claim 24, Lewis further discloses the analyte is identified by a best match of the data to a data profile in the database and identifying any identifiers associated with the data profile (page 4, section 0037-0039, page 13, section 0085);

Regarding claim 17, the biological sample is selected from the group consisting of a breath sample (page 4, section 0041), a urine sample, a vaginal sample, a feces sample, a tissue sample and a blood sample.

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Regarding claim 23, the at least one identifier is selected from the group consisting of location, time, age, sex, disease state, temperature (page 3, section 0027), sample source, sample type, organism, and ethnicity.

Regarding claim 56, the disease is selected from the group consisting of diabetes, liver cirrhosis, halitosis (page 4, section 0041), periodontal disease, pneumonia, vaginitis, uremia, trimethylaminuria, lung cancer, dysgensia, dysosnia, cytinuria, and bacterial vaginosis.

Regarding claim 57, the analyte is an off gas of a member selected from the group consisting of *Prevotella intermedia*, *Fusobacterium nucleatum*, *Porphyromonas gingivalis*, *Porphyromonas endodontalis*, *Prevotella loescheii*, *Hemophilus parainfluenzae*, *Stomatococcus mucii*, *Treponema denticola*, *Veillonella* species, *Peptostreptococcus anaerobius*, *Micros prevotii*, *Eubacterium limosum*, *Centipeda periodontii*, *Seimonad aremidis*, *Eubacterium* species, *Bacteriodes* species (page 4, section 0041), *Fusobacterium periodonticum*, *Prevotella melaninogenica*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Citrobacter* species and *Stomatococcus mucilaginosus*.

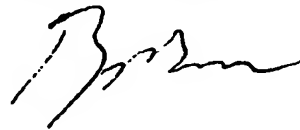
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

BRYAN BUI
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'B. Bui', is written over the printed name and title.